dataTaker

Application Note

Data Logger Optimises Production

Customer Requirements

A major international building supplies provider is experiencing regular downtime in one of their quarries. Evidence of a problem had surfaced when significant discrepancies between the manually reported stoppages and the throughput appeared. To clarify this issue and to identify the cause of these discrepancies, an automated monitoring solution is required.

Mining Quarry: Raw materials are moved around the facility using conveyor belts

dataTaker DT80

1. A cost effective data logger expandable to 100 channels, 200 isolated or 300 single-ended analog inputs

2. Built-in web and FTP server allows for remote access to logged data, configuration and diagnostics

3. Modbus slave and master functionality allows connection to Modbus sensors and devices and to SCADA systems

4. Smart serial sensor channels capable of interfacing to RS232, RS485, RS422 and SDI-12 sensors

5. Rugged design and construction provides reliable operation under extreme conditions

6. Includes USB memory stick support for easy data and program transfer

dataTaker Solution

Equipment
dataTaker DT80 data logger

Sensors
Belt Scales with 4-20mA current outputs and pulse outputs

Implementation Notes

The solution was to install a *dataTaker* DT80 data logger to monitor the belt scales installed on the conveyors. The belt scales provided 4-20mA outputs for instantaneous rate monitoring (in tonnes per hour) and pulse outputs returned the total tonnes per shift.

The DT80 has the capacity to monitor and log up to 15 current sources such as 4-20mA outputs, and has four dedicated high-speed hardware counters, which in this instance would be used to monitor the number of pulses from the belt scales. This allows the client to compare the actual stoppages to the manually reported stoppages and quickly identify where and how the discrepancies occurred.

An additional use for the DT80 could be to eliminate the bottlenecks in the system to improve throughput. The DT80 enhanced web interface makes it is possible to view graphical indicators, providing to the operator the current throughput. This in turn allows for remedial action immediately whilst a problem was developing rather than wait until the crusher was blocked completely.

This type of application could also apply to other batch weighing systems and manufacturing processes.

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